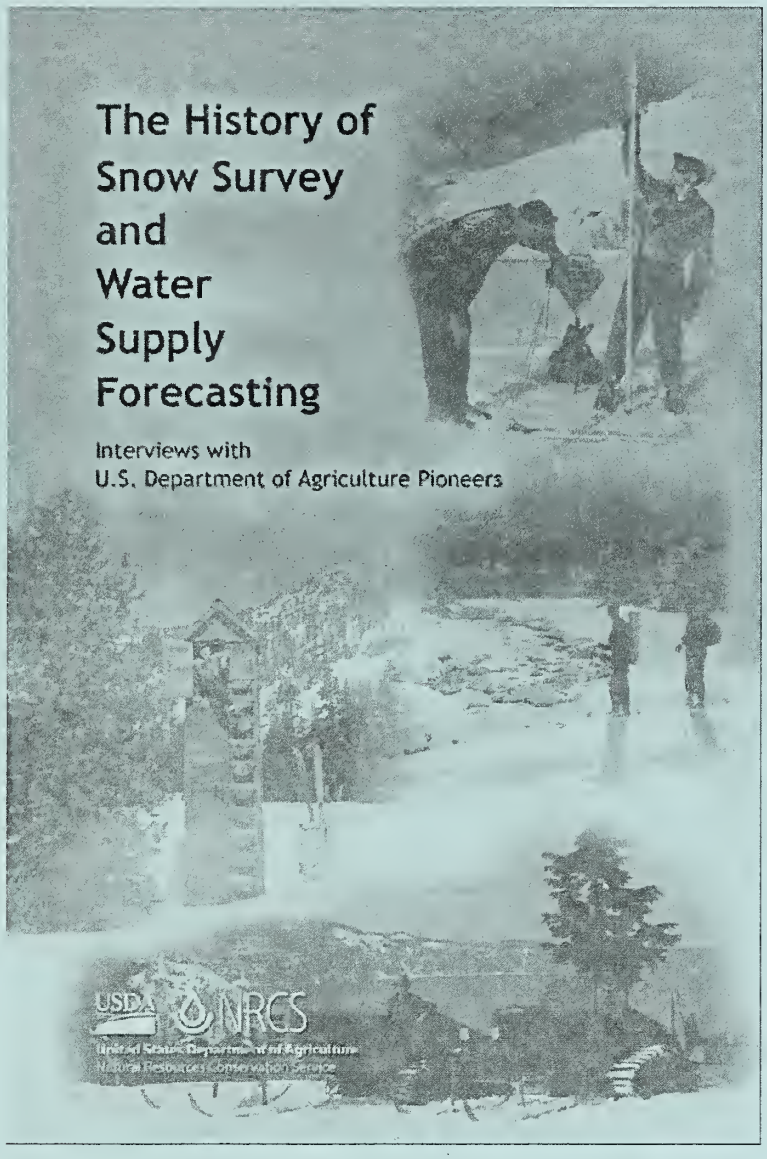
United States Department of Agriculture
Natural Resources Conservation Service

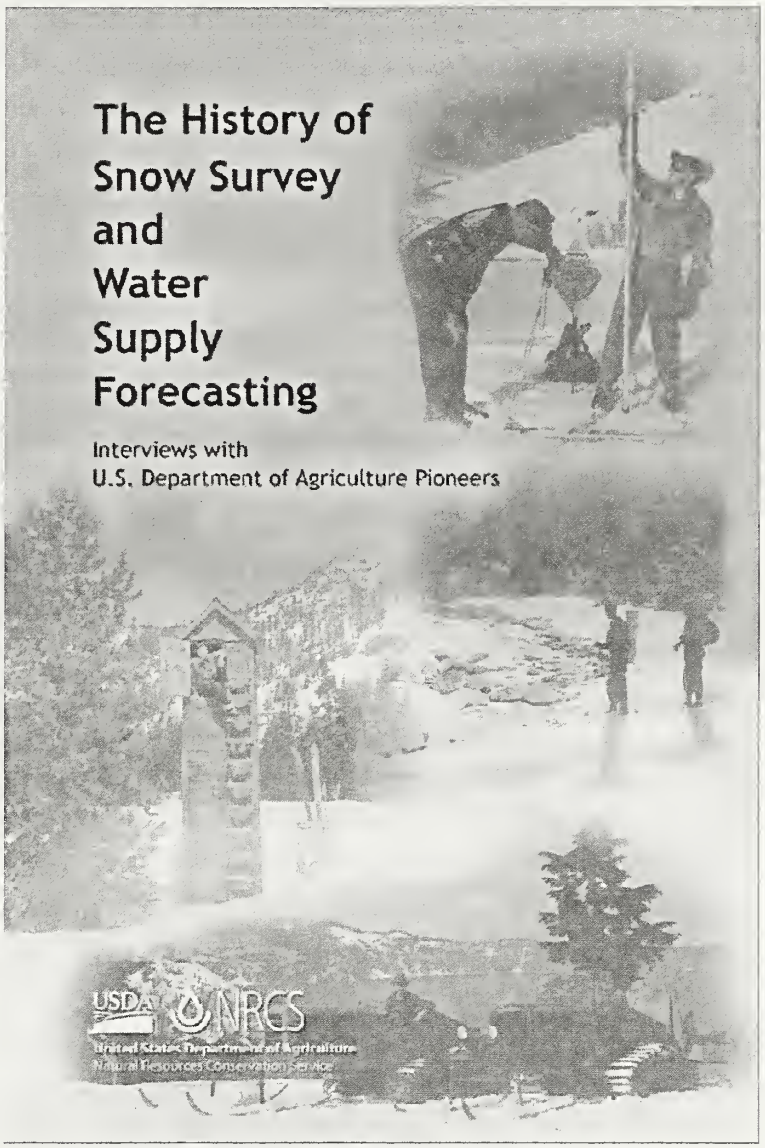
Idaho Water Supply Outlook Report January 1, 2009



The image above is the cover of a new 300 page book published in 2008 detailing the history of Snow Survey program. The book has a wealth of information and in depth interviews with some of the pioneering USDA Snow Survey officials. There were some very colorful characters among our predecessors, but all extremely dedicated despite some entertaining high jinks brought out in the interviews. Hardcover copies are available from the USDA Landcare office. To order call 1-888-LANDCARE (1-888-526-3227) or email landcare@usda.gov. Alternatively, online copies can be downloaded using the link on our homepage http://www.id.nrcs.usda.gov/snow/.

NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Idaho Water Supply Outlook Report
January 1, 2009



The image above is the cover of a new 300 page book published in 2008 detailing the history of Snow Survey program. The book has a wealth of information and in depth interviews with some of the pioneering USDA Snow Survey officials. There were some very colorful characters among our predecessors, but all extremely dedicated despite some entertaining high jinks brought out in the interviews. Hardcover copies are available from the USDA Landcare office. To order call 1-888-LANDCARE (1-888-526-3227) or email landcare@usda.gov. Alternatively, online copies can be downloaded using the link on our homepage http://www.id.nrcs.usda.gov/snow/.

Basin Outlook Reports
and Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information, or to subscribe to or unsubcribe from this publication:

Contact - - Your local Natural Resources Conservation Service Office
or
Natural Resources Conservation Service
Snow Surveys
9173 West Barnes Drive, Suite C
Boise, Idaho 83709-1574
(208) 378-5740

Internet Web Address
http://www.id.nrcs.usda.gov/snow/

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

IDAHO WATER SUPPLY OUTLOOK REPORT

January 1, 2009

SUMMARY

Repeated storms and cold temperatures in December produced abundant snowfall throughout Idaho and the Upper Snake region in Wyoming. Low elevation areas were particularly hard hit since most of the precipitation fell as snow rather than rain due to the unusually cold temperatures throughout the Pacific Northwest. The above normal December snow and precipitation was not enough however to compensate for the milder and somewhat dry October and November conditions that yielded very little snowpack in the high country. As of January 1, most of Idaho is in the 90% of average snowpack range; a little higher across the southern borders and a little lower in the northern areas. Stormy weather continued in early January, adding 1 to 3 additional inches of snow water content to SNOTEL sites in northern, central, and eastern Idaho as well as the Upper Snake basin in Wyoming, further brightening the water supply outlook for those areas.

Streamflow forecasts range from 70-97% of average across the state. Reservoir storage varies across the state and is highly dependent on last year's runoff and irrigation demand. Keep in mind that the data analyses and streamflow forecasts in this report are based on the January first readings. The early January additions to the snowpack can be seen as a bonus and will hopefully help ensure monthly precipitation is near normal or better by month's end. For the time being, Idaho is in the storm track and snowpacks are building quickly, which is a promising sign for future water supplies.

SNOWPACK

Warmer than normal fall weather that stretched into mid-December prevented Idaho's mountain snowpack from accumulating as it normally does. Many SNOTEL sites in Idaho and across the West were near or at record low snow water content levels in early December. However, due to the recent bountiful moisture, Idaho's mountain snowpacks are back on track, ranging from 60-120% of average across the state.

The lowest snowpacks are in the Spokane and Northern Idaho Panhandle region at roughly 60-70% of average. The Clearwater, Salmon, Weiser, Payette, and Bear Basin snowpacks are 75-90% of average. Elsewhere, across central and southern Idaho, snowpacks range from 90-120% of average. With a near average snowpack on January 1, these amounts are 30-40% of the April 1 seasonal peaks. This means that if it stops snowing, we would end the snow season on April 1 at one-third of average. With more than half the winter still to come, the chance of reaching average April amounts is now looking good; the possible exception is the Bear River Basin in southeast Idaho where storm tracks originating in the Pacific Northwest have missed.

A unique weather phenomenon occurred in December providing record high snow to fall in lower elevations in Spokane, Coeur d'Alene, Boise, Portland and other valley locations in the Pacific Northwest. A record cold snap in mid- to late-December left cold air trapped in the valleys. A moist warm front subsequently overran this cold air, resulting in abundant precipitation. If it wasn't for the cold valley air, valley precipitation would have been in the form of heavy rain; instead it fell as deep snow. Typically, mountains have an orographic effect that produces twice as much precipitation at high elevation as in the valleys. But with this storm, the warm air had already lost much of its moisture before getting to the mountains, so less snow accumulated at upper elevations.

PRECIPITATION

The new water year started with below normal precipitation falling in October across the state. November faired slightly better with amounts ranging from 85-105% of average. After an early December dry spell, the weather gates opened allowing storm after storm to roll in from the Pacific Northwest. December mountain precipitation did not reach record high levels, but ranged from average in the Idaho Panhandle Region to 160% of average in the basins south of the Snake River. The majority fell in a two week period, resulting in a lot of consecutive days of shoveling! It kept road crews busy, opened ski resorts and unfortunately created a deadly avalanche cycle across the west. Precipitation since the water year started October 1 ranges from a high of 123% in the Southside Snake basins to 83% in the Panhandle region.

An intense mid-November precipitation event in the Clearwater basin satisfied the soil moisture deficit, producing runoff and a jump in streamflow. Elsewhere in the state, fall precipitation was spread over a longer period and failed to fill the soil profile or produce runoff. This means an additional 2 to 5 inches of snow melt will be absorbed by soils in the spring before rivers rise.

RESERVOIRS

Reservoir storage amounts are a mixed bag this year. Some reservoirs are storing more than this time last year, while others have less than last year. Carryover storage depends on last year's runoff versus demand for water. Basins that had better runoff last spring and summer or higher flow later in the fall are storing more water behind their dams. Presently, northern Idaho lakes and reservoirs are below normal due to cold temperatures preventing thaw and runoff in the lower elevations. Dworshak Reservoir is storing 107% of average. Current storage levels are near average in the Payette, Boise and upper Snake reservoir systems. Most of the reservoirs south of the Snake River are well below average due to poor runoff last spring. Salmon Falls and Magic reservoirs are the lowest at roughly 30% of average, followed by Bear Lake at 40%, Owyhee at 47% and Oakley at 62%. For Little Wood and Mackay reservoirs, storage levels are 57 and 78% of average, respectively.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and in some cases, dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

Overall, October through December streamflow has been about three-quarters to near normal in basins north of the Salmon River. The exception is the Clearwater Basin, where record high daily rainfall in November produced a jump in streamflow and recharged the soil moisture. Fall streamflows in the southern two-thirds of the state were 75% of average or less. The lowest October through December streamflow (25% of normal) occurred in Camas Creek near Blaine in central Idaho. The highest streamflow occurred in the Selway River at 150% of normal for this period.

Current streamflow forecasts are for 70-97% of average across most of the state. The exception is the Bear River at Stewart Dam which is forecast at 60%, slightly higher than last year's observed runoff. Based on the abundant snowfall in late December, it might seem like the forecasts should be higher, but NRCS monthly streamflow forecasts are based on a number of variables not just snow data. Other variables include last year's streamflow, the Southern Oscillation Index to reflect El Nino/La Nina conditions, fall precipitation, as well as current mountain snow and precipitation data. Even though there is unusually deep snowpack in the populated valleys, the NRCS forecasts do not include this variable in calculating summer streamflow volumes. The lower elevation zone does not produce a large proportion of spring and summertime streamflow when compared with water coming from the deeper mountain snowpacks. Depending on future weather conditions, valley snow does pose the potential for rapid runoff, creating high flows, as was observed eight months ago in the Spokane basin. Based on the fall

analysis, April 1 snowpacks of 80-120% of average are needed to produce streamflow of 45-100% of average, which is needed for adequate irrigation supplies.

Note: Forecasts published in this report are NRCS guidance forecasts. NRCS is using SNOTEL data in a timely manner to provide timely streamflow forecast for users. Official jointly coordinated and published forecasts by the USDA Natural Resources Conservation Service and the US Department of Commerce, NOAA, National Weather Service are available at the joint west-wide Water Supply Outlook for the Western US at http://www.wcc.nrcs.usda.gov/wsf/westwide.html.

RECREATION

Outdoor enthusiasts had to stay occupied with fall pursuits as winter conditions took their time arriving this year. With the exception of some high elevation accumulations, there was not enough snow to begin recreating on sleds or boards until mid-December. Cold temperatures accompanied by the first significant snowfall of the season got powder-hound's juices flowing before Christmas and allowed ski resorts to open for the holidays. Five percent density powder accumulating on minimal base depths gave repair shops the greatest reward as rocks and stumps were hidden, but not out of reach of ski bottoms.

Base depths increased quickly as storm after storm pounded the state. In areas with existing old snow, the avalanche danger increased rapidly and stayed high as significant new snow continued to build atop weak, faceted snow already on the ground. These facets form a persistent weak layer that acts like ball bearings which makes new snow apt to slide. Across the west, these conditions proved deadly not only in the backcountry but also in-bounds at more than one ski resort. These deaths provide a sober reminder that avalanches know no boundaries and that despite the avalanche control measures that work 99.9% of the time, it is important to be careful when conditions are ripe for avalanches. So far this season, safer riding conditions have been found in areas that were snow free until mid-December and don't have a weak layer on the ground. As we move into the heart of winter, you can track your local conditions by following links from www.avalanche.org to the avalanche center closest to you. You may also want to consider building your knowledge by taking an avalanche basics class provided by professionals at one of these centers. It's not just "extreme" backcountry skiers, snowboarders and snowmobilers that can be caught; it can be anyone that ventures into avalanche terrain including skiers and snowboarders at resorts who find an isolated pocket of unstable snow or a snowshoer going out for a hike in the mountains. A little education can go a long way when it comes to staying safe.

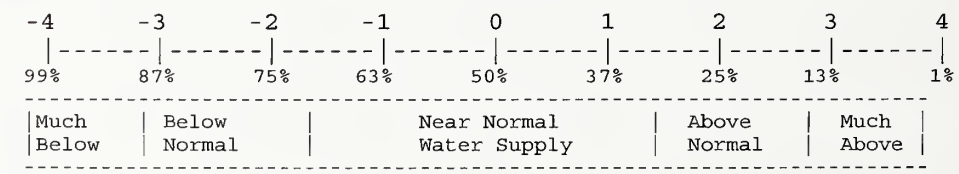
IDAHO SURFACE WATER SUPPLY INDEX (SWSI) *As of January 1, 2009*

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.0 (abundant supply) to -4.0 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences. The SWSI analysis period is from 1971 to present.

SWSI values provide a more comprehensive outlook of water availability by combining streamflow forecasts and reservoir storage where appropriate. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been determined for some basins to indicate the potential for agricultural irrigation water shortages.

BASIN or REGION	*SWSI Value*	*Most Recent Year With Similar SWSI Value*	*Agricultural Water Supply Shortage May Occur When SWSI is Less Than*
PANHANDLE	-1.9	1995	NA
CLEARWATER	-0.5	2004	NA
SALMON	-0.2	2003	NA
WEISER	1.7	2008	NA
PAYETTE	-0.4	2003	NA
BOISE	0.4	2008	-1.7
BIG WOOD	-0.6	2005	-0.1
LITTLE WOOD	0.4	2005	-1.8
BIG LOST	-0.2	2005	0.0
LITTLE LOST	-0.9	2008	0.6
HENRYS FORK	-1.9	2004	-3.4
SNAKE (HEISE)	0.4	2006	-1.7
OAKLEY	-0.9	2005	-0.5
SALMON FALLS	-1.5	2007	-1.1
BRUNEAU	-0.6	2008	NA
BEAR RIVER	-2.7	1995	-3.0

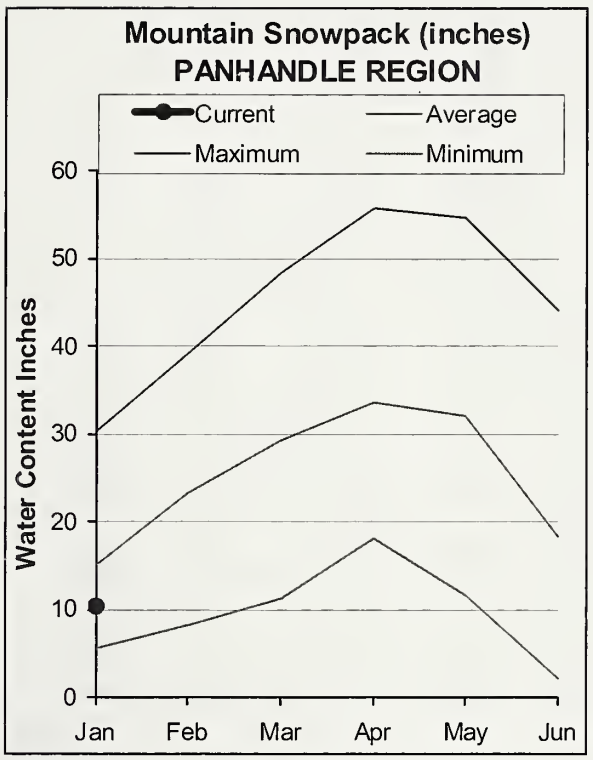
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

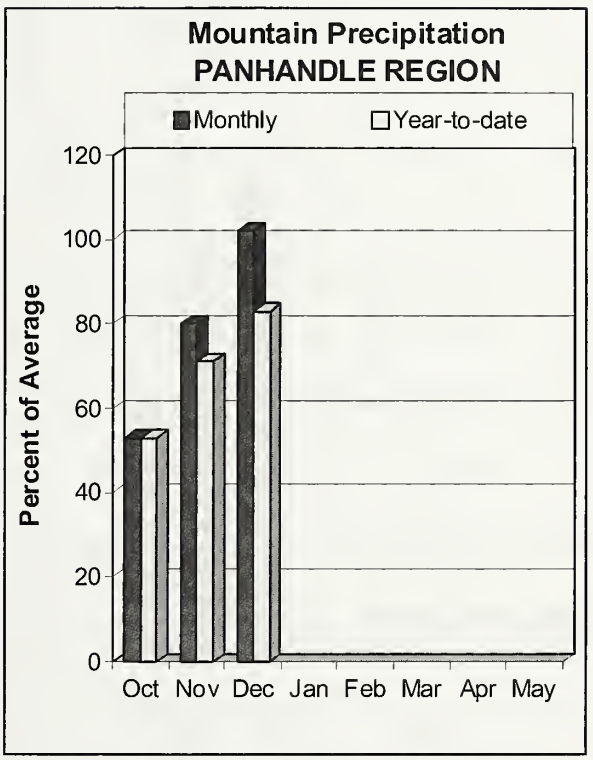


NA = Not Applicable

Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

PANHANDLE REGION
JANUARY 1, 2009





WATER SUPPLY OUTLOOK

With unusual weather patterns comes unusual snowpacks. Last spring, low-elevation towns in the Panhandle and eastern Washington received abundant snowfall - and that is an understatement! To some of the people living in these valleys, a return of a similar trend is unwelcome. In early December, the snow was off to a slow start and the Panhandle's mountain snowpacks were less than 30% of normal. Extremely cold Canadian air set temperature records in mid- to late-December. On the cold air's heels a slightly warmer and moist pacific storm produced lots of snow in the valleys where the cold air was trapped, but not so much at higher elevations. Nonetheless, these storms increased mountain snow to 69% of average during the last week of December, as compared to last year when snow was 98% of average. The Panhandle mountain snowpacks are behind the rest of the state, which is disturbing news to the valley residents. The precipitation for the water year is only 76% of normal for the far northern Panhandle mountains and 87% of normal for the mountains in the Spokane River Basin. Based on January 1 snow and precipitation data, the streamflow forecasts call for a below average streamflow season between April and July. If we continue to receive these moist storms over the next few months, then the water supply outlook will improve.

PANHANDLE REGION

Streamflow Forecasts - January 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
KOOTENAI at Leonia (1,2)	APR-JUL	4600	5620	6080	86	6540	7560	7040
	APR-SEP	5250	6440	6980	86	7520	8710	8120
MOYIE RIVER at Eastport	APR-JUL	187	245	285	70	325	385	405
	APR-SEP	194	255	295	70	335	395	420
SMITH CREEK	APR-JUL	61	81	95	77	109	129	123
	APR-SEP	61	84	99	77	114	137	129
BOUNDARY CREEK	APR-JUL	63	80	91	74	102	119	123
	APR-SEP	67	84	95	74	106	123	129
CLARK FK at Whitehorse Rpds (1,2)	APR-JUL	10300	10900	11100	98	11300	11900	11300
	APR-SEP	11300	11900	12200	98	12500	13100	12500
PEND ORIELLE Lake Inflow (2)	APR-JUL	10700	11000	11200	88	11400	11700	12700
PEND OREILLE Lake Inflow (2)	APR-SEP	11600	12000	12200	88	12400	12800	13900
PRIEST near Priest River (1,2)	APR-JUL	265	500	610	75	720	955	815
	APR-SEP	290	535	650	75	765	1010	870
NF COEUR D'ALENE RIVER at Enaville	APR-JUL	215	397	520	70	643	825	740
	APR-SEP	237	421	545	70	669	853	780
ST. JOE at Calder	APR-JUL	527	755	910	80	1065	1293	1140
	APR-SEP	568	801	960	80	1119	1352	1200
SPOKANE near Post Falls (2)	APR-JUL	1200	1620	1900	75	2180	2600	2550
	APR-SEP	1320	1710	1970	74	2230	2620	2650
SPOKANE at Long Lake (2)	APR-JUL	1130	1770	2200	77	2630	3270	2850
	APR-SEP	1260	1930	2390	78	2850	3520	3070

PANHANDLE REGION

Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNGRY HORSE	3451.0	2646.0	2676.0	2420.9
FLATHEAD LAKE	1791.0	1181.0	1158.0	1192.7
NOXON RAPIDS	335.0	319.0	321.1	315.8
PEND OREILLE	1561.3	389.0	898.5	673.4
COEUR D'ALENE	238.5	52.2	71.2	110.1
PRIEST LAKE	119.3	53.6	48.0	55.7

PANHANDLE REGION

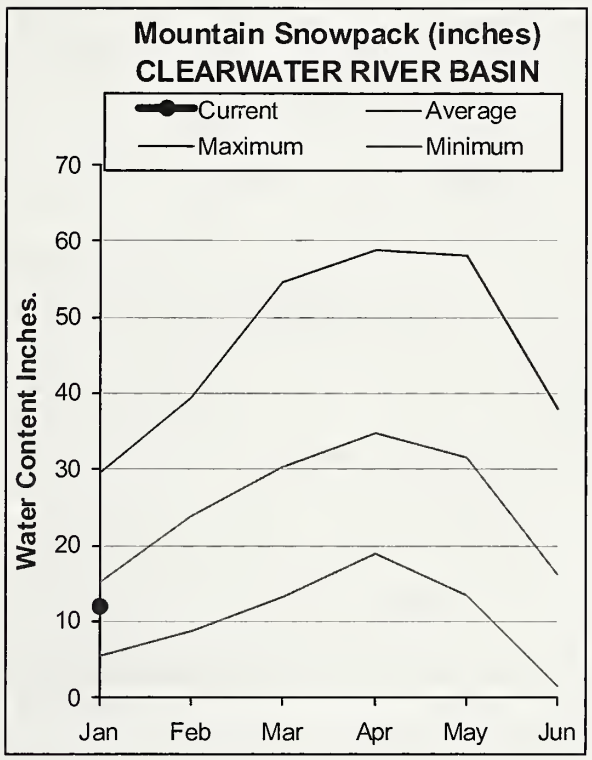
Watershed Snowpack Analysis - January 1, 2009

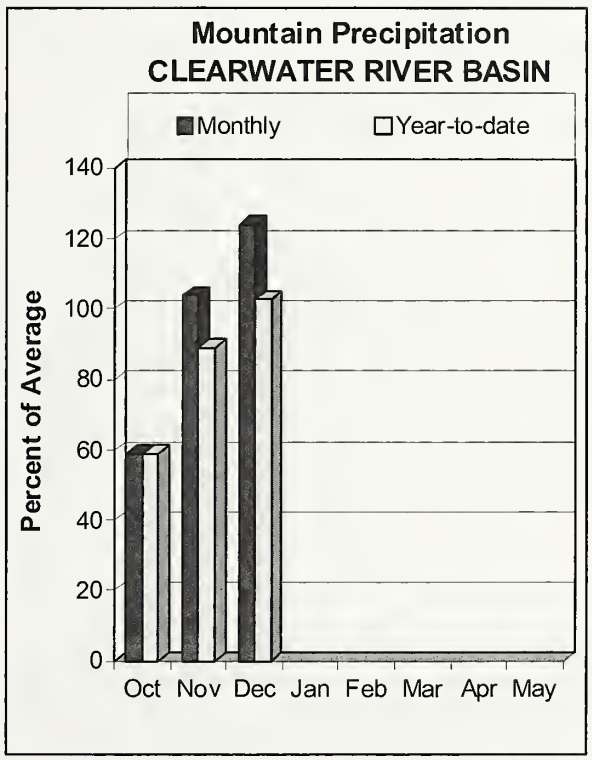
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	14	75	69
Moyie River	3	75	87
Priest River	4	80	87
Pend Oreille River	62	89	81
Rathdrum Creek	2	114	114
Hayden Lake	0	0	0
Coeur d'Alene River	5	76	81
St. Joe River	4	73	72
Spokane River	9	83	83
Palouse River	1	84	114

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

CLEARWATER RIVER BASIN
JANUARY 1, 2009





WATER SUPPLY OUTLOOK

In early December, the snowpack was looking bleak in the Clearwater mountains with values at only 30% of normal. During the last week in December, some of our SNOTEL sites received almost 10 inches of new snow water content. However, more water is still needed to meet the average snow water content for this time of year. As of January 1, the snow was 81% of normal, while last year the snow was 104%. The precipitation is currently 103% of average, which means that the Clearwater has been getting the storms that it normally does, but the air temperatures caused the precipitation to fall as rain instead of snow early in the water year. In fact, on November 12, 3.0 inches of rain fell at Shanghi Summit and 3.9 inches fell at Lost Lake SNOTEL sites, both of which are located in the North Fork of the Clearwater. The water year precipitation for the entire Clearwater Basin rose from 88% of normal to 123% as a result of this one day storm event. The daily flow of the Selway River near Lowell peaked at 14,900 cfs on November 13, a dramatic increase from 3,140 cfs recorded the previous day. The good news for water supply is that Dworshak reservoir is currently 69% full and above average for this time of year. If we begin to receive normal amounts of snow over the next few months, our streams will flow slightly below normal throughout the summer ranging from near 84% of average for Dworshak Inflow to 95% of average for the Selway River.

CLEARWATER RIVER BASIN
Streamflow Forecasts - January 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Selway R nr Lowell	APR-JUL	1452	1758	1966	95	2174	2480	2060
	APR-SEP	1547	1857	2068	95	2279	2589	2170
Lochsa R nr Lowell	APR-JUL	1024	1253	1409	92	1565	1794	1530
	APR-SEP	1095	1324	1480	92	1636	1865	1610
DWORSHAK RESV Inflow (1,2)	APR-JUL	1119	1879	2224	84	2569	3329	2640
	APR-SEP	1251	2021	2370	85	2719	3489	2800
CLEARWATER R at Orofino (1)	APR-JUL	2845	3898	4376	94	4854	5907	4650
	APR-SEP	3003	4111	4615	94	5119	6227	4900
CLEARWATER at Spalding (1,2)	APR-JUL	4258	5939	6703	90	7467	9148	7430
	APR-SEP	4522	6298	7105	91	7912	9688	7850

CLEARWATER RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2378.1	2253.1	2228.2

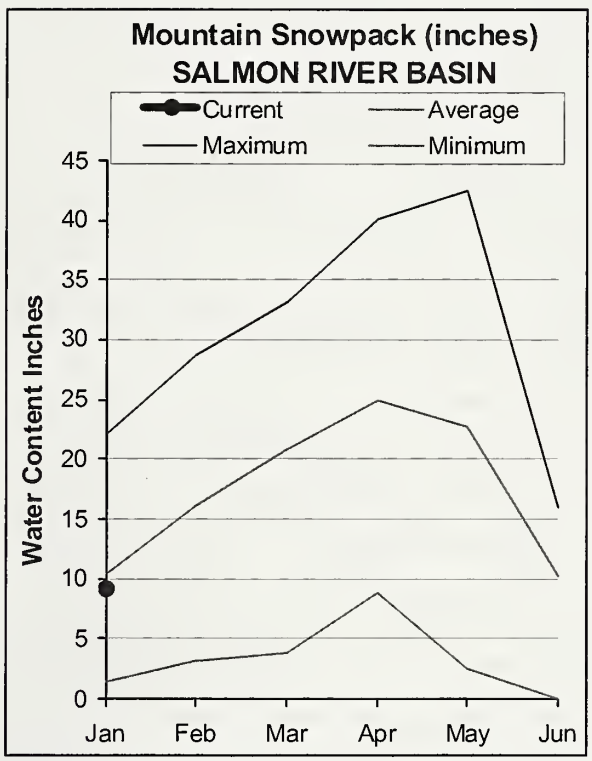
CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - January 1, 2009

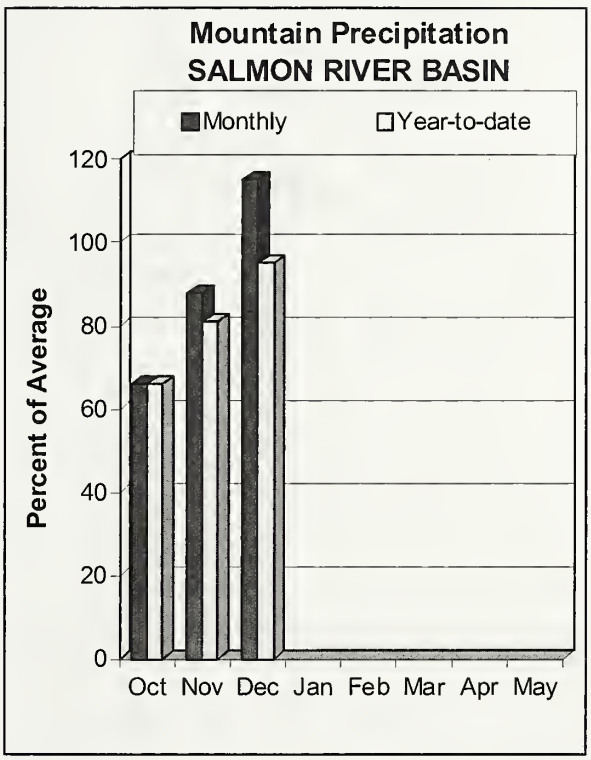
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	9	76	76
Lochsa River	3	72	83
Selway River	4	84	93
Clearwater Basin Total	16	78	81

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SALMON RIVER BASIN
JANUARY 1, 2009





WATER SUPPLY OUTLOOK

The January 1 snowpack in the mountains of the Salmon Basin is 90% of normal which is much higher than mid-December when the snow was only half of normal. Last year on the first of January, the snow was 104% of average. If we continue to get inclement weather systems, then our snowpack will be in good shape when compared to normal values. There are still many uncertainties this early in the snow year that can influence what the final water supply outlook will be, but last year the Salmon River at White Bird flowed at 112% of normal for April through July, with a snowpack of around 100% of average. Current streamflow forecasts for April-July of this year call for 86% of average for the Salmon River near Salmon and the Lemhi River. Forecasts for the Salmon River at White Bird and the Middle Fork of the Salmon River are just over 90% of normal.

SALMON RIVER BASIN
Streamflow Forecasts - January 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SALMON at Salmon (1)	APR-JUL	347	615	736	86	857	1125	855
	APR-SEP	408	715	855	86	995	1302	1000
Lemhi R nr Lemhi	APR-JUL	39	58	74	86	92	121	86
	APR-SEP	48	71	89	85	109	142	105
MF Salmon at MF Lodge	APR-JUL	390	588	723	92	857	1055	785
	APR-SEP	444	659	806	92	953	1168	875
Salmon at White Bird (1)	APR-JUL	3003	4601	5327	91	6053	7651	5850
	APR-SEP	3369	5106	5895	91	6684	8421	6480

SALMON RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

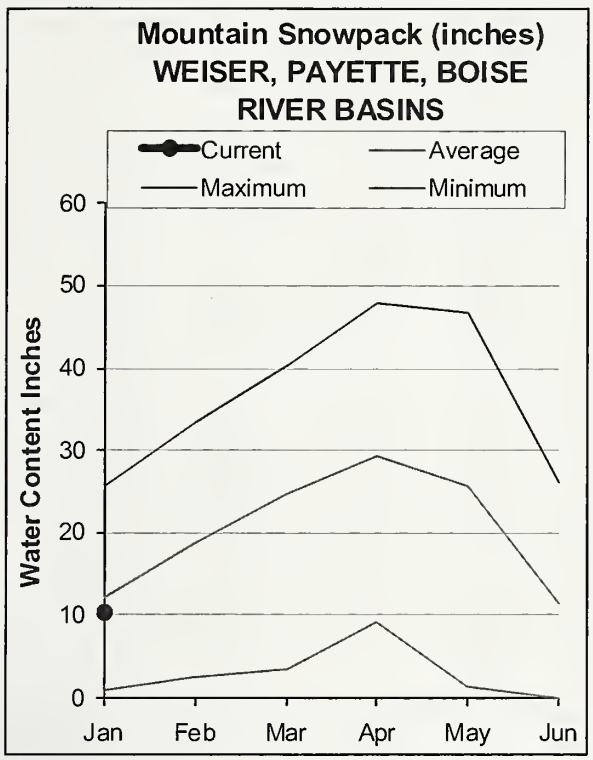
SALMON RIVER BASIN
Watershed Snowpack Analysis - January 1, 2009

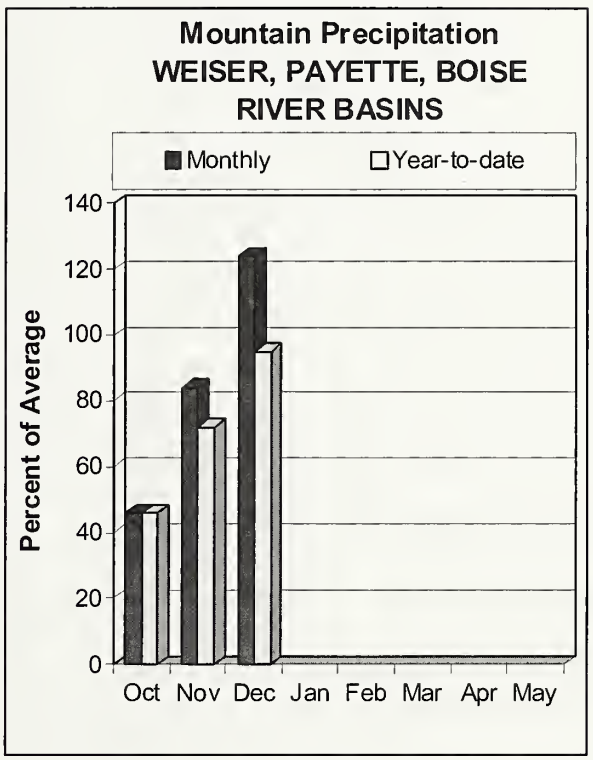
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	8	97	91
Lemhi River	6	94	105
Middle Fork Salmon River	3	83	82
South Fork Salmon River	3	75	80
Little Salmon River	4	85	89
Salmon Basin Total	23	87	90

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS JANUARY 1, 2009





WATER SUPPLY OUTLOOK

The last three weeks of December more than made up for below normal precipitation in October and November. 124% of average precipitation in December boosted water year-to-date values since October to 95% for January 1. Abundant snowfall helped mountain snowpack to rebound from grim values at the start of the month to near average amounts by the New Year. As of January 1, the best snowpack is in the Boise basin at 100% of average. The Weiser Basin's snowpack is 89% of average and slightly better than the Payette Basin at 85%. These numbers will continue to rise as forecasts call for more snow through the first part of the month. Prairie SNOTEL, Little Camas Flat Snow Course and Bogus Basin Road Snow Course, three mid-elevation snow measuring sites (4800-5500 feet) in the southern portion of the Boise Basin, are measuring close to twice their normal snow amounts. This pattern is reminiscent of last winter; however, this year it is limited to only these three sites, whereas last winter, deep low elevation snow was more widespread. Sites at similar elevations in the Payette and Weiser basins are not showing above normal snow. Reservoir carryover storage at year's end is better than values at the end of 2007. Reservoirs in the Boise system are storing 95% of average, 53% of capacity. Cascade and Deadwood reservoirs in the Payette drainage contain average amounts for this time of year with contents at half of capacity. Streamflows are forecast for 82-90% of average in these basins for the April-July period. Assuming average precipitation in the future, surface water supplies should be adequate since we are starting with decent reservoir storage and a promising early snowpack.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - January 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Weiser R nr Weiser (1)	FEB-JUL	167	405	547	84	710	1146	650
	APR-SEP	111	262	351	84	453	725	420
SF Payette R at Lowman	APR-JUL	243	318	374	85	435	533	440
	APR-SEP	279	362	424	86	491	599	495
Deadwood Resv Inflow (1,2)	APR-JUL	54	94	113	84	132	172	134
	APR-SEP	57	101	121	85	141	185	142
Lake Fork Payette R nr McCall	APR-JUL	53	65	75	88	85	100	85
	APR-SEP	54	67	77	87	87	104	89
NF Payette R at Cascade (1,2)	APR-JUL	183	357	436	84	515	689	520
	APR-SEP	178	362	446	83	530	714	540
NF Payette R nr Banks (2)	APR-JUL	326	461	553	82	645	780	675
	APR-SEP	330	472	568	81	664	806	700
Payette R nr Horseshoe Bend (1,2)	APR-JUL	693	1160	1373	84	1586	2053	1640
	APR-SEP	780	1259	1476	84	1693	2172	1760
Boise R nr Twin Springs (1)	APR-JUL	288	482	571	90	659	854	635
	APR-SEP	320	527	621	90	714	921	690
SF BOISE at Anderson Ranch Dam (1,2)	APR-JUL	180	382	474	88	566	768	540
	APR-SEP	197	409	505	87	601	813	580
MORES CK nr Arrowrock Dam	APR-JUL	52	84	110	84	139	189	131
	APR-SEP	55	87	114	83	144	195	137
BOISE R nr Boise (1,2)	APR-JUN	631	966	1118	89	1270	1605	1260
	APR-JUL	646	1060	1248	89	1436	1850	1410
BOISE near Boise (1,2)	APR-SEP	695	1144	1348	88	1552	2001	1530

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	2.2	0.9	3.3
CASCADE	693.2	459.4	455.1	456.4
DEADWOOD	161.9	80.6	63.6	82.5
ANDERSON RANCH	450.2	262.9	152.2	296.8
ARROWROCK	272.2	182.1	170.9	173.1
LUCKY PEAK	293.2	89.8	89.2	95.5
LAKE LOWELL (DEER FLAT)	165.2	90.0	79.7	98.4

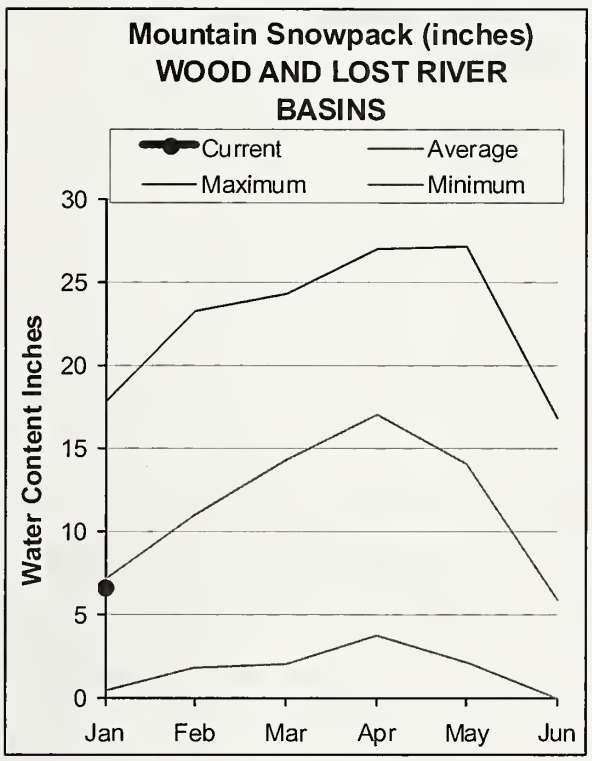
WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - January 1, 2009

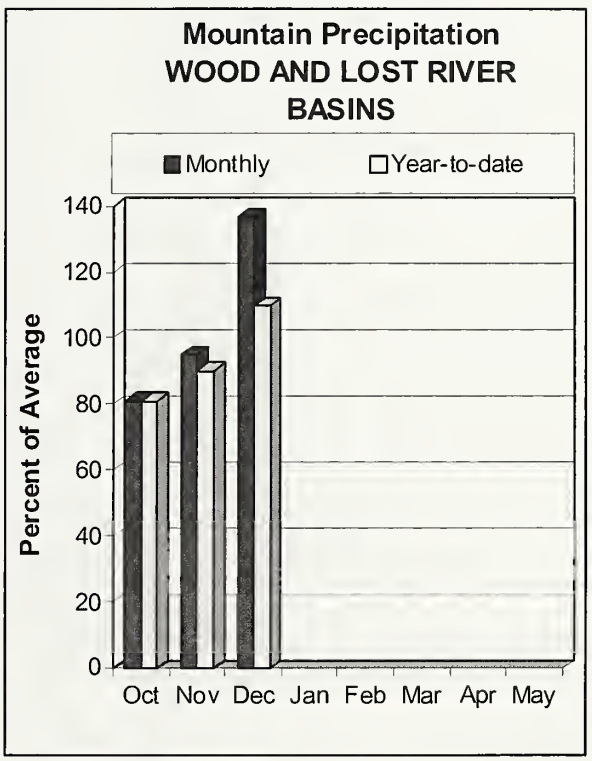
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	1	84	77
Weiser River	3	94	89
North Fork Payette	8	81	82
South Fork Payette	5	91	86
Payette Basin Total	14	88	85
Middle & North Fork Boise	5	107	89
South Fork Boise River	9	113	100
Mores Creek	5	121	107
Boise Basin Total	16	114	100
Canyon Creek	2	188	150

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WOOD and LOST RIVER BASINS
JANUARY 1, 2009





WATER SUPPLY OUTLOOK

Average precipitation in November followed by 137% of average December precipitation provided a promising start to the water year in the Wood and Lost River basins. Water year-to-date precipitation is 110% of average across the basins, the second best in the state. December's storm tracks particularly favored the Little Wood Basin where the snowpack went from record low amounts in early December to average amounts by the end of the month. As of January 1, the best snowpack is found in the Camas Creek drainage at 122% of average, while the Big Lost basin is at 100%, the Big Wood basin is at 95% and Little Lost is at 85%. December 31st storage is 30% of average in Magic Reservoir, 78% in Mackay Reservoir and 57% in Little Wood Reservoir. Streamflows are forecast for 65% of average for Camas Creek near Blaine, 69-81% for the Little Lost River near Howe and Big Wood River, and 85-88% for the Big Lost and Little Wood rivers. It is still early, but if current trends hold, the Big Wood, Big Lost, and Little Lost basins could all see slight shortages based on the Surface Water Supply Index which combines reservoir storage and predicted streamflow. Water supplies for the Little Wood basin look more promising based on this index.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - January 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BIG WOOD at Haily (1)	APR-JUL	70	156	206	81	263	413	255
	APR-SEP	79	175	231	80	295	462	290
Big Wood R ab Magic Reservoir	APR-JUL	13.0	86	135	71	184	257	190
	APR-SEP	16.0	94	147	72	200	278	205
Camas Ck nr Blaine	APR-JUL	12.0	38	65	65	99	161	100
	APR-SEP	12.0	39	66	65	100	163	101
BIG WOOD below Magic Dam (2)	APR-JUL	10.0	123	200	69	277	390	290
	APR-SEP	16.0	133	213	70	293	410	305
LITTLE WOOD R abv High Five Ck	MAR-JUL	30	54	75	88	99	140	85
	MAR-SEP	32	59	81	88	106	151	92
LITTLE WOOD near Carey (2)	MAR-JUL	26	59	81	85	104	136	96
	MAR-SEP	29	64	87	84	110	145	104
BIG LOST at Howell Ranch	APR-JUL	79	118	150	87	185	244	173
	APR-SEP	91	136	172	87	212	279	197
BIG LOST blw Mackay Resv	APR-JUL	44	89	119	84	149	194	141
	APR-SEP	57	110	147	86	184	237	172
Little Lost R nr Howe	APR-JUL	13.6	19.5	24	78	29	38	31
	APR-SEP	16.0	23	29	74	35	45	39

WOOD AND LOST RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	24.0	17.1	79.7
LITTLE WOOD	30.0	8.1	9.4	14.1
MACKAY	44.4	18.6	17.4	23.7

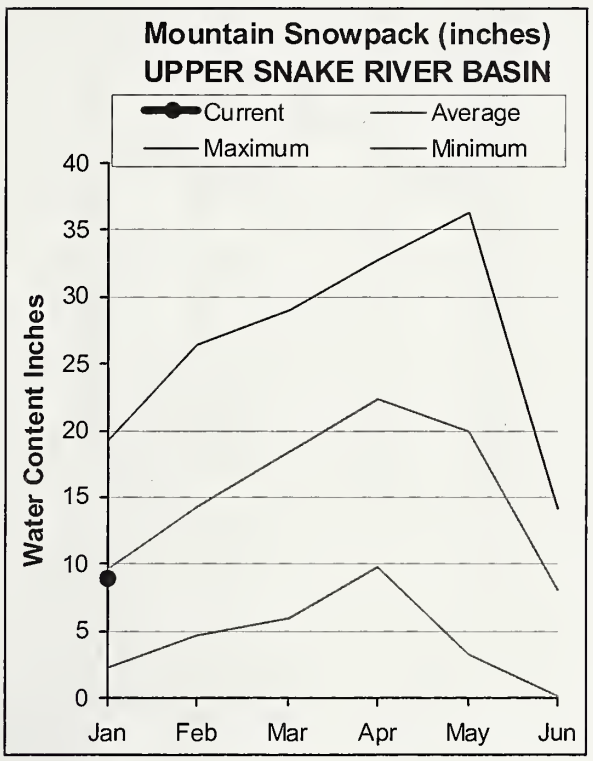
WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - January 1, 2009

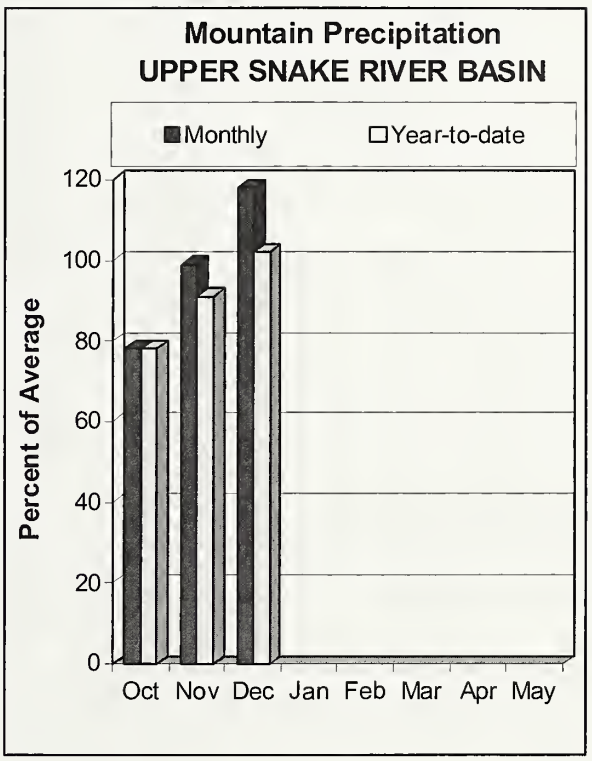
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Hailey	8	91	84
Camas Creek	5	145	122
Big Wood Basin Total	13	105	95
Fish Creek	0	0	0
Little Wood River	5	126	104
Big Lost River	5	127	100
Little Lost River	3	108	85
Birch-Medicine Lodge Cree	2	108	102
Camas-Beaver Creeks	4	172	107

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER SNAKE BASINS
JANUARY 1, 2009





WATER SUPPLY OUTLOOK

Precipitation in the Upper Snake has strengthened each month since October with December bringing 118% of average. Water year-to-date precipitation since October 1 is slightly above average. The Upper Snake saw more winter weather in November and early December than most of the rest of Idaho. While the mid-December snowpack in the Upper Snake was only about one-half of normal, it looked better than the rest of the state which lagged at one-tenth to one-third of average. Snowpacks have improved dramatically during the last three weeks of December and now stand at about 90% of average in the Henrys Fork, Teton, Greys and Snake River above Jackson Lake basins. The Pacific Creek, Gros Ventre and the Salt basins all contain average to better than normal snowpack. The lowest snow is in the Hoback drainage at 79% of average. Reservoir storage is 40% of average in Blackfoot, 80% in Palisades and 133% in Jackson Lake. Other reservoirs in the region contain 97-110% of average values. The Snake River at Heise is forecast at near 90% of average and all drainages above that point are forecast slightly higher. On the east side of the Tetons, the Henrys Fork, Falls River and Teton River are forecast between 85-90% of average. The forecast for the Portneuf River at Topaz is slightly lower at 79%. If current conditions continue irrigators should expect adequate surface water supplies next summer.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - January 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
HENRYS FORK nr Ashton (2)	APR-JUL	357	445	510	90	579	690	570
	APR-SEP	505	610	687	90	768	897	765
HENRYS FORK near Rexburg (2)	APR-JUL	1070	1240	1356	87	1472	1642	1560
	APR-SEP	1418	1611	1742	87	1873	2066	2010
Falls R nr Ashton	APR-JUL	259	307	342	90	379	437	380
	APR-SEP	309	365	406	90	449	516	450
Teton R nr Driggs	APR-JUL	82	115	141	86	169	215	165
	APR-SEP	105	146	177	84	211	267	210
Teton R nr St. Anthony	APR-JUL	204	278	334	83	396	496	405
	APR-SEP	251	337	402	84	473	588	480
Snake River At Flagg Ranch	APR-JUL	328	411	468	95	525	608	495
	APR-SEP	359	450	511	94	572	663	545
SNAKE nr Moran (1,2)	APR-JUL	491	683	770	95	857	1049	815
	APR-SEP	542	755	852	94	949	1162	905
Pacific Ck At Moran	APR-JUL	104	140	165	97	190	226	171
	APR-SEP	108	145	170	96	195	232	178
SNAKE abv Resv nr Alpine (1,2)	APR-JUL	1251	1868	2148	91	2428	3045	2370
	APR-SEP	1450	2149	2466	90	2783	3482	2730
Greys R Nr Alpine	APR-JUL	209	268	308	91	348	407	340
	APR-SEP	243	312	359	91	406	475	395
Salt R Nr Etna	APR-JUL	161	251	312	92	373	463	340
	APR-SEP	207	312	383	91	454	559	420
SNAKE nr Irwin (1,2)	APR-JUL	2065	2723	3022	91	3321	3979	3330
	APR-SEP	2425	3166	3503	91	3840	4581	3870
SNAKE near Heise (2)	APR-JUL	2437	2913	3236	91	3559	4035	3560
	APR-SEP	2855	3399	3768	91	4137	4681	4160
WILLOW CREEK nr Ririe (2)	MAR-JUL	45	68	83	94	98	121	88
Blackfoot R ab Res nr Henry	APR-JUN	27	46	62	85	80	111	73
Portneuf R at Topaz	MAR-JUL	39	57	70	79	85	110	89
	MAR-SEP	49	69	85	78	102	131	109
Snake River at Neeley	APR-JUL	998	2185	2724	84	3263	4450	3240
	APR-SEP	944	2230	2814	80	3398	4684	3510

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	85.7	75.2	82.5
ISLAND PARK	135.2	104.9	74.6	96.1
GRASSY LAKE	15.2	12.7	13.0	11.6
JACKSON LAKE	847.0	639.5	306.3	481.7
PALISADES	1400.0	829.1	428.2	1036.5
RIRIE	80.5	38.0	37.3	34.5
BLACKFOOT	348.7	85.5	79.5	215.3
AMERICAN FALLS	1672.6	955.5	706.7	986.6

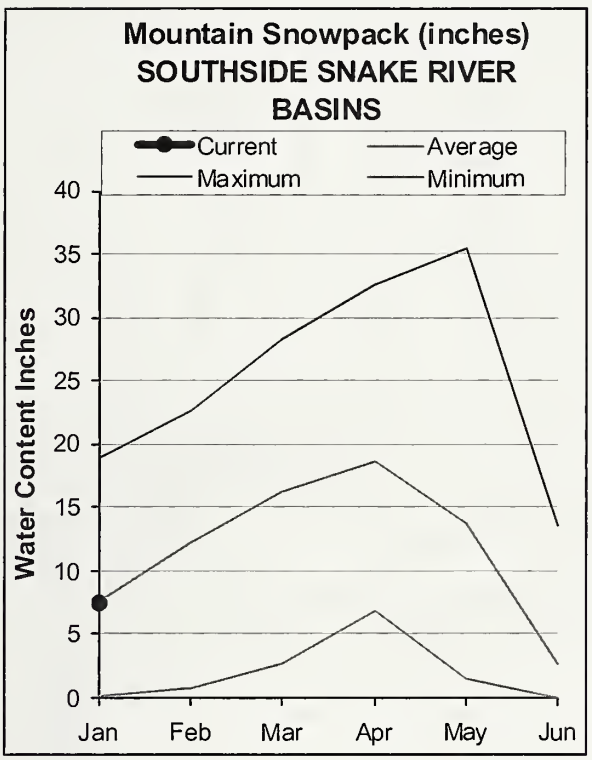
UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - January 1, 2009

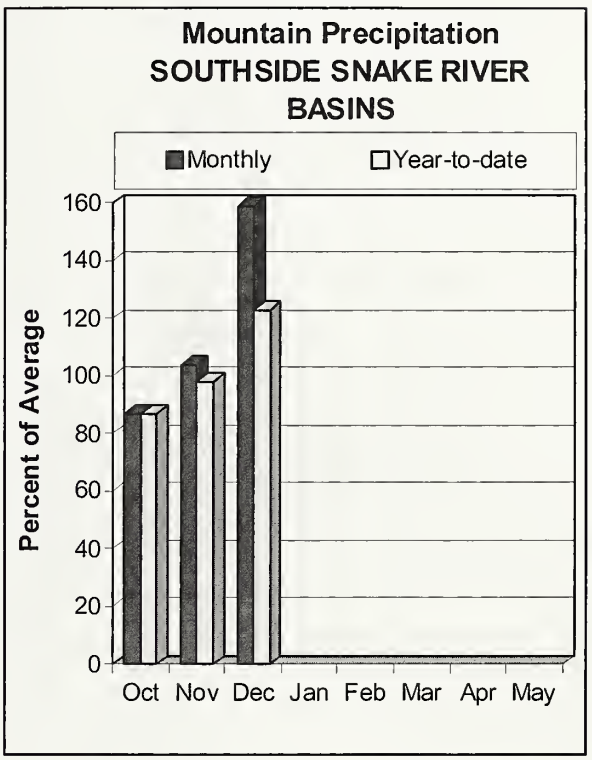
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Henrys Fork-Falls River	9	95	91
Teton River	3	104	86
Henrys Fork above Rexburg	12	97	90
Snake above Jackson Lake	5	95	92
Gros Ventre River	2	109	106
Hoback River	5	114	79
Greys River	4	123	88
Salt River	3	131	97
Snake above Palisades	17	108	90
Willow Creek	2	124	98
Blackfoot River	2	127	99
Portneuf River	3	121	88
Snake abv American Falls	28	106	90

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SOUTHSIDE SNAKE RIVER BASINS JANUARY 1, 2009





WATER SUPPLY OUTLOOK

Statewide, the basins south of the Snake River saw the greatest benefit from abundant December moisture. Overall December precipitation was 159% of average across the region, bringing water year-to-date precipitation since October to 123%. In just a couple weeks the snowpack increased from 2-12% of normal in mid-December to near average amounts by January 1 in the Oakley and Owyhee basins and above average values in the Bruneau and Salmon Falls drainages. Reservoir storage going into winter is below normal with Salmon Falls Reservoir at 32% of average, Owyhee at 47%, Oakley at 62%, and Wildhorse at 66%. Only Brownlee is currently storing average amounts. Streamflow forecasts range from 85% of average for Oakley Reservoir Inflow, to 88% for the Owyhee River below Owyhee Dam to about 95% of average for the Bruneau River near Hot Springs and Salmon Falls Creek near San Jacinto. Due to the lingering effects of drought and low reservoir levels, it will take greater than normal precipitation through the rest of winter for Oakley and Salmon Falls water users to have adequate surface water supplies next summer.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - January 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Oakley Reservoir Inflow	MAR-JUL	13.2	22	29	85	37	51	34
	MAR-SEP	14.7	24	32	85	40	55	37
Salmon Falls Ck nr San Jacinto	MAR-JUN	44	65	82	93	101	133	89
	MAR-JUL	46	68	87	93	107	140	93
	MAR-SEP	49	72	91	92	111	146	98
Bruneau R nr Hot Springs	MAR-JUL	123	181	226	96	277	360	235
	MAR-SEP	129	189	236	94	288	375	250
Owyhee R nr Gold Creek (2)	MAR-JUL	12.6	22	30	94	40	59	32
	MAR-SEP	12.1	21	29	94	39	57	31
Owyhee R nr Rome	FEB-JUL	274	458	610	93	783	1078	655
	FEB-SEP	287	475	629	93	805	1103	675
Owyhee R blw Owyhee Dam (2)	FEB-JUL	42	341	617	88	894	1301	700
	FEB-SEP	36	354	641	88	928	1351	730
	APR-SEP	9.0	143	302	70	461	695	430
Reynolds Ck at Tollgate	MAR-JUL	3.2	5.8	7.9	81	10.3	14.6	9.7

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	75.6	16.0	23.0	25.7
SALMON FALLS	182.6	16.6	27.0	52.6
WILDHORSE RESERVOIR	71.5	25.0	28.6	37.8
OWYHEE	715.0	185.7	173.9	398.1
BROWNLEE	1420.0	1311.3	129.5	1303.0

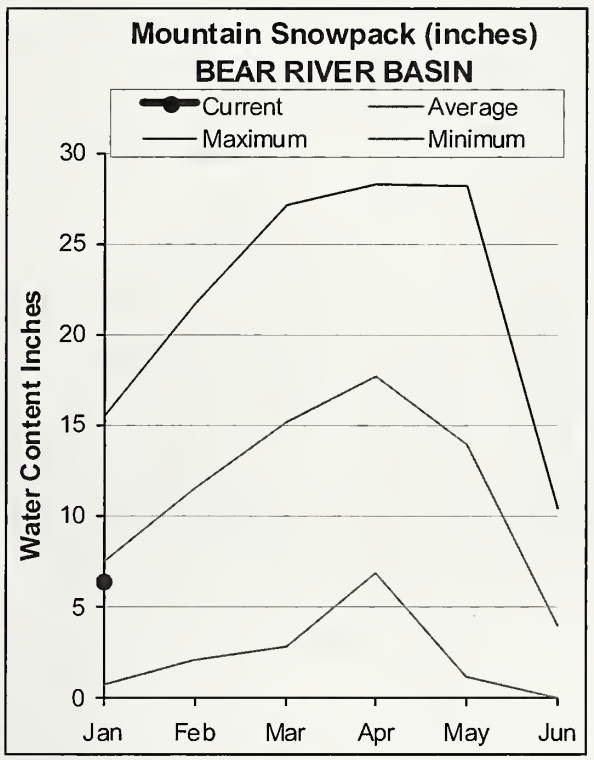
SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - January 1, 2009

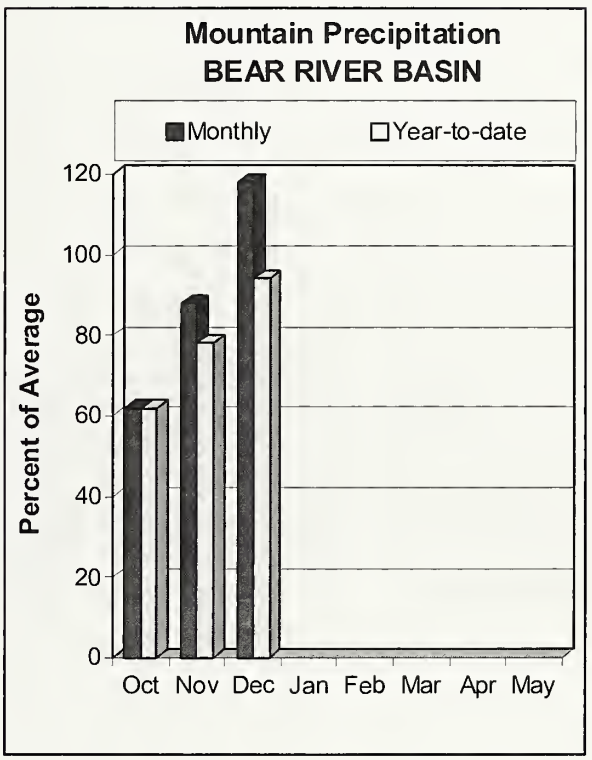
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	1	101	95
Goose-Trapper Creeks	3	117	96
Salmon Falls Creek	6	143	109
Bruneau River	5	149	109
Reynolds Creek	6	144	110
Owyhee Basin Total	8	157	104

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

BEAR RIVER BASIN
JANUARY 1, 2009





WATER SUPPLY OUTLOOK

The Bear River Basin has had a rough go at snowpacks for the past few years. In early December the snowpack was only about half of normal. Fortunately, snow storms from the southwesterly direction brought Pacific moisture to this region in late December. As of January 1, the Bear River's mountain snow is 85% of average. This improvement is good news and provides hope for an average snowpack by spring. Last year at this time, the mountain snow was only 68% of normal. Although precipitation since October 1 is 94% of average for the water year, Bear Basin simply needs more storms as Bear Lake is only 25% full and 40% of average for the end of December. If the current storm track continues, then the water supply situation will improve for the runoff season. Last year the Bear River above the reservoir flowed at 88% of average for April-July; below the dam the streamflow was 52% of average for the same time period. There are still many uncertainties, but the current streamflow forecasts for the rivers in the Bear Basin call for near 85% of average for April through July. The lowest forecast is for 60% of average for the Bear River at Stewart Dam and the highest forecast is for 89% of average for the Little Bear River at Paradise, Utah. The water supply situation will improve if we continue to have the moist, Pacific systems.

BEAR RIVER BASIN
Streamflow Forecasts - January 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bear R nr UT-WY State Line	APR-JUL	54	80	98	87	116	142	113
	APR-SEP	62	90	110	88	130	158	125
Bear River ab Reservoir nr Woodruff	APR-JUL	58	95	120	88	145	182	136
	APR-SEP	65	103	128	90	153	191	142
Big Creek nr Randolph	APR-JUL	1.7	3.2	4.2	86	5.2	6.7	4.9
Smiths Fork nr Border	APR-JUL	51	73	88	85	103	125	103
	APR-SEP	62	87	104	86	121	146	121
Bear River at Stewart Dam	APR-JUL	63	105	140	60	180	248	234
	APR-SEP	78	126	165	63	209	285	262
Little Bear at Paradise, UT	APR-JUL	11.0	29	41	89	53	71	46
Logan nr Logan, UT	APR-JUL	53	86	108	86	130	163	126
Blacksmith Fk nr Hyrum, UT	APR-JUL	13.9	29	40	83	51	66	48

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	362.0	345.1	907.5
MONTPELIER CREEK	4.0	2.4	1.0	1.7

BEAR RIVER BASIN
Watershed Snowpack Analysis - January 1, 2009

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Smiths & Thomas Forks	3	133	83
Bear River ab WY-ID line	9	132	86
Montpelier Creek	1	103	67
Mink Creek	1	124	92
Cub River	1	126	97
Bear River ab ID-UT line	15	129	87
Malad River	1	117	100

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Streamflow Adjustment List for All Forecasts Published in Idaho Water Supply Outlook Report: streamflow forecasts are projections of runoff volumes that would occur without influences from upstream reservoirs or diversions. These values are referred to as natural, unregulated or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made for each forecast point. **(Revised Nov. 2007).**

Panhandle River Basins

Kootenai R at Leonia, ID
+ Lake Koocanusa (Storage Change)
Boundary Ck nr Porthill, ID – No Corrections
Moyie R at Eastport, ID – No Corrections
Smith Creek nr Porthill, ID – No Corrections
Clark Fork R at Whitehorse Rapids, ID
+ Hungry Horse (Storage Change)
+ Flathead Lake (Storage Change)
+ Noxon Rapids Resv (Storage Change)
Pend Oreille Lake Inflow, ID
+ Pend Oreille R at Newport, WA
+ Hungry Horse (Storage Change)
+ Flathead Lake (Storage Change)
+ Noxon Rapids (Storage Change
+ Pend Oreille Lake (Storage Change)
+ Priest Lake (Storage Change)
Priest R nr Priest R, ID
+ Priest Lake (Storage Change)
NF Coeur d'Alene R at Enaville, ID - No Corrections
St. Joe R at Calder, ID - No Corrections
Spokane R nr Post Falls, ID
+ Coeur d'Alene Lake (Storage Change)
Spokane R at Long Lake, WA
+ Coeur d'Alene Lake (Storage Change)
+ Long Lake, WA (Storage Change)

Clearwater River Basin

Selway R nr Lowell - No Corrections
Lochsa R nr Lowell - No Corrections
Dworshak Resv Inflow, ID
+ Clearwater R nr Peck, ID
- Clearwater R at Orofino, ID
+ Dworshak Resv (Storage Change)
Clearwater R at Orofino, ID - No Corrections
Clearwater R at Spalding, ID
+ Dworshak Resv (Storage Change)

Salmon River Basin

Salmon R at Salmon, ID - No Corrections
Lemhi R nr Lemhi, ID – No Corrections
MF Salmon R at MF Lodge, ID – No Corrections
Salmon R at White Bird, ID - No Corrections

Weiser, Payette, Boise River Basins

Weiser R nr Weiser, ID - No Corrections
SF Payette R at Lowman, ID - No Corrections
Deadwood Resv Inflow, ID
+ Deadwood R blw Deadwood Resv nr Lowman
+ Deadwood Resv (Storage Change)
Lake Fork Payette R nr Mccall, ID – No Corrections
NF Payette R at Cascade, ID
+ Cascade Resv (Storage Change)
+ Payette Lake (Storage Change)
NF Payette R nr Banks, ID
+ Cascade Resv (Storage Change)
+ Payette Lake (Storage Change)
Payette R nr Horseshoe Bend, ID
+ Cascade Resv (Storage Change)
+ Deadwood Resv (Storage Change)
+ Payette Lake (Storage Change)
Boise R nr Twin Springs, ID - No Corrections
SF Boise R at Anderson Ranch Dam, ID
+ Anderson Ranch Resv (Storage Change)
Boise R nr Boise, ID
+ Anderson Ranch Resv (Storage Change)
+ Arrowrock Resv (Storage Change)
+ Lucky Peak Resv (Storage Change)

Wood and Lost River Basins

Big Wood R at Hailey, ID - No Corrections
Big Wood R abv Magic Resv, ID
+ Big Wood R nr Bellevue, ID
+ Willow Ck
Camas Ck nr Blaine – No Corrections
Big Wood R blw Magic Dam nr Richfield, ID
+ Magic Resv (Storage Change)
Little Wood R abv High Five Ck, ID – No Corrections
Little Wood R nr Carey, ID
+ Little Wood Resv (Storage Change)
Big Lost R at Howell Ranch, ID - No Corrections
Big Lost R blw Mackay Resv nr Mackay, ID
+ Mackay Resv (Storage Change)
Little Lost R blw Wet Ck nr Howe, ID - No Corrections

Upper Snake River Basin

Henrys Fork nr Ashton, ID
+ Henrys Lake (Storage Change)
+ Island Park Resv (Storage Change)
Henrys Fork nr Rexburg, ID
+ Henrys Lake (Storage Change)
+ Island Park Resv (Storage Change)
+ Grassy Lake (Storage Change)
+ Diversions from Henrys Fk btw Ashton to St. Anthony, ID
+ Diversions from Henrys Fk btw St. Anthony to Rexburg, ID
+ Diversions from Falls R abv nr Ashton, ID
+ Diversions from Falls R nr Ashton to Chester, ID
Falls R nr Ashton, ID
+ Grassy Lake (Storage Change)
+ Diversions from Falls R abv nr Ashton, ID
Teton R nr Driggs, ID - No Corrections
Teton R nr St. Anthony, ID
- Cross Cut Canal into Teton R
+ Sum of Diversions for Teton R abv St. Anthony, ID
Snake R nr Moran, WY
+ Jackson Lake (Storage Change)
Pacific Ck at Moran, WY – No Corrections
Snake R abv Palisades, WY
+ Jackson Lake (Storage Change)

Greys R abv Palisades, WY – No Corrections
Salt R abv Palisades, WY – No Corrections
Snake R nr Irwin, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
Snake R nr Heise, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
Willow Ck nr Ririe, ID
+ Ririe Resv (Storage Change)
Blackfoot Resvervoir Inflow, ID
+ Blackfoot Reservoir releases
+ Blackfoot Resv (Storage Change
Portneuf R at Topaz, ID - No Corrections
Snake River at Neeley, ID
+ Snake River at Neeley (observed)
+ All Corrections made for Henrys Fk nr Rexburg, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
+ Diversions from Snake R btw Heise and Shelly
+ Diversions from Snake R btw Shelly and Blackfoot

Southside Snake River Basins

Oakley Resv Inflow, ID
+ Goose Ck abv Trapper Ck
+ Trapper Ck nr Oakley
Salmon Falls Ck nr San Jacinto, NV - No Corrections
Bruneau R nr Hot Springs, ID - No Corrections
Owyhee R nr Gold Ck, NV
+ Wildhorse Resv (Storage Change)
Owyhee R nr Rome, OR – No Corrections
Owyhee R blw Owyhee Dam, OR
+ Owyhee R blw Owyhee Dam, OR (observed)
+ Owyhee Resv (Storage Change)
+ Diversions to North and South Canals
Snake R at King Hill, ID - No Corrections
Snake R nr Murphy, ID - No Corrections
Snake R at Weiser, ID - No Corrections
Snake R at Hells Canyon Dam, ID
+ Brownlee Resv (Storage Change)

Bear River Basin

Bear R nr UT-WY Stateline, UT – No Corrections
Bear R abv Resv nr Woodruff, UT – No Corrections
Smiths Fork nr Border, WY - No Corrections
Bear R blw Stewart Dam nr Montpelier, ID
+ Bear R blw Stewart Dam
+ Rainbow Inlet Canal

Reservoir Capacity Definitions (Units in 1,000 Acre-Feet, KAF)

Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. **(Revised Dec. 2005)**

Basin/ Reservoir	Dead Storage	Inactive Storage	Active Storage	Surcharge Storage	NRCS Capacity	NRCS Capacity Includes
Panhandle Region						
Hungry Horse	39.73	---	3451.00	---	3451.0	Active
Flathead Lake	Unknown	---	1791.00	---	1791.0	Active
Noxon Rapids	Unknown	---	335.00	---	335.0	Active
Pend Oreille	406.20	112.40	1042.70	---	1561.3	Dead+Inactive+Active
Coeur d'Alene	---	13.50	225.00	---	238.5	Inactive+Active
Priest Lake	20.00	28.00	71.30	---	119.3	Dead+Inactive+Active
Clearwater Basin						
Dworshak	---	1452.00	2016.00	---	3468.0	Inactive+Active
Weiser/Boise/Payette Basins						
Mann Creek	1.61	0.24	11.10	---	11.1	Active
Cascade	---	46.70	646.50	---	693.2	Inactive+Active
Deadwood	---	---	161.90	---	161.9	Active
Anderson Ranch	24.90	37.00	413.10	---	450.1	Inactive+Active
Arrowrock	---	---	272.20	---	272.2	Active
Lucky Peak	---	28.80	264.40	13.80	293.2	Inactive+Active
Lake Lowell	7.90	5.80	159.40	---	165.2	Inactive+Active
Wood/Lost Basins						
Magic	Unknown	---	191.50	---	191.5	Active
Little Wood	---	---	30.00	---	30.0	Active
Mackay	0.13	---	44.37	---	44.4	Active
Upper Snake Basin						
Henrys Lake	---	---	90.40	---	90.4	Active
Island Park	0.40	---	127.30	7.90	135.2	Active+Surcharge
Grassy Lake	---	---	15.18	---	15.2	Active
Jackson Lake	Unknown	---	847.00	---	847.0	Active
Palisades	44.10	155.50	1200.00	---	1400.0	Dead+Inactive+Active
Ririe	4.00	6.00	80.54	10.00	80.5	Active
Blackfoot	---	---	348.73	---	348.7	Active
American Falls	---	---	1672.60	---	1672.6	Active
Southside Snake Basins						
Oakley	---	---	75.60	---	75.6	Active
Salmon Falls	48.00	5.00	182.65	---	182.6	Active+Inactive
Wildhorse	---	---	71.50	---	71.5	Active
Owyhee	406.83	---	715.00	---	715.0	Active
Brownlee	0.45	444.70	975.30	---	1420.0	Inactive+Active
Bear River Basin						
Bear Lake	5.0 MAF	119.00	1302.00	---	1421.0 includes 119 that can be released	Active+Inactive:
Montpelier Creek	0.21	---	3.84	---	4.0	Dead+Active

Interpreting Water Supply Forecasts

Introduction
Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

90 Percent Chance of Exceedance Forecast. There is a 90 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 10 percent chance that the actual streamflow volume will be less than this forecast value.

70 Percent Chance of Exceedance Forecast. There is a 70 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 30 percent chance that the actual streamflow volume will be less than this forecast value.

50 Percent Chance of Exceedance Forecast. There is a 50 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 50 percent chance that the actual streamflow volume will be less than this forecast value. Generally, this forecast is the middle of the range of possible streamflow volumes that can be produced given current conditions.

30 Percent Chance of Exceedance Forecast. There is a 30 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 70 percent chance that the actual streamflow volume will be less than this forecast value.

10 Percent Chance of Exceedance Forecast. There is a 10 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 90 percent chance that the actual streamflow volume will be less than this forecast value.

*Note: There is still a 20 percent chance that actual streamflow volumes will fall either below the 90 percent exceedance forecast or above the 10 percent exceedance forecast.

These forecasts represent the uncertainty inherent in making streamflow predictions. This uncertainty may include sources such as: unknown future weather conditions, uncertainties associated with the various prediction methodologies, and the spatial coverage of the data network in a given basin.

30-Year Average. The 30-year average streamflow for each forecast period is provided for comparison. The average is based on data from 1971-2000. The % AVG. column compares the 50% chance of exceedance forecast to the 30-year average streamflow; values above 100% denote when the 50% chance of exceedance forecast would be greater than the 30-year average streamflow.

AF - Acre-feet, forecasted volume of water are typically in thousands of acre-feet.

These forecasts are given to users to help make risk-based decisions. Users can select the forecast corresponding to the level of risk they are willing to accept in order to minimize the negative impacts of having more or less water than planned for.

To Decrease the Chance of Having Less Water than Planned for
A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive less than this amount). To reduce the risk of .having less water than planned for, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded such as the 90 or 70 percent exceedance forecasts.

To Decrease the Chance of Having More Water than Planned for
A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive more than this amount). To reduce the risk of having more water than planned for, users can base their operational decisions on one of the forecasts with a lesser chance of being exceeded such as the 30 or 10 percent exceedance forecasts.

Using the forecasts - an Example
Using the 50 Percent Exceedance Forecast. Using the example forecasts shown below, there is a 50% chance that actual streamflow volume at the Boise River near Twin Springs will be less than 685 KAF between April 1 and July 31. There is also a 50% chance that actual streamflow volume will be greater than 685 KAF.

Using the 90 and 70 Percent Exceedance Forecasts. If an unexpected shortage of water could cause problems (such as irrigated agriculture), users might want to plan on receiving 610 KAF (from the 70 percent exceedance forecast). There is a 30% chance of receiving *less* than 610 KAF.

Alternatively, if users determine the risk of using the 70 percent exceedance forecast is too great, then they might plan on receiving 443 KAF (from the **90** percent exceedance forecast). There is 10% chance of receiving less than 443 KAF.

Using the 30 or 10 Percent Exceedance Forecasts. If an unexpected excess of water could cause problems (such as operating a flood control reservoir), users might plan on receiving 760 KAF (from the 30 percent exceedance forecast). There is a 30% chance of receiving *more* than 760 KAF.

Alternatively, if users determine the risk of using the 30 percent exceedance forecast is too great, then they might plan on receiving 927 KAF (from the 10 percent exceedance forecast). There is a 10% chance of receiving more than 927 KAF.

Users could also choose a volume in between any of these values to reflect their desired risk level.

Weiser, Payette, Boise River Basins
Streamflow Forecasts – January 2006

Forecast Point	Forecast Period	Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000 AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF PAYETTE RIVER at Lowman	APR-JUL	329	414	471	109	528	613	432
	APR-SEP	369	459	521	107	583	673	488
BOISE RIVER near Twin Springs (1)	APR-JUL	443	610	685	109	760	927	631
	APR-SEP	495	670	750	109	830	1005	690

*90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table

USDA Natural Resources Conservation Service
9173 West Barnes Drive, Suite C
Boise ID 83709-1574

OFFICIAL BUSINESS

Issued by
Arlen Lancaster, Chief
Natural Resources Conservation Service
Washington, DC

Released by
Jeff Burwell, State Conservationist
Dave Hoover, Assistant State Conservationist
Natural Resources Conservation Service
Boise, Idaho

Prepared by
Snow Survey Staff
Ron Abramovich, Water Supply Specialist
Philip Morrisey, Data Collection Officer
Jeff Anderson, Hydrologist
Julie Koeberle, Hydrologist
Adam Birken, Hydrologic Technician
Jeff Graham, Electronics Technician
Chad Gipson, Electronics Technician

Assistance provided by
Jolyne Lea, Forecast Hydrologist
Jim Marron, Forecast Hydrologist
NRCS, National Water and Climate Center, Portland, Oregon

Cooperative funding for printing provided by
Idaho Department of Water Resources

Numerous other agencies provide funding and/or
cooperative support for the collection, operation
and maintenance of the Snow Survey Program.
Their cooperation is greatly appreciated.

USDA Natural Resources Conservation Service
9173 West Barnes Drive, Suite C
Boise ID 83709-1574

OFFICIAL BUSINESS

Issued by
Arlen Lancaster, Chief
Natural Resources Conservation Service
Washington, DC

Released by
Jeff Burwell, State Conservationist
Dave Hoover, Assistant State Conservationist
Natural Resources Conservation Service
Boise, Idaho

Prepared by
Snow Survey Staff
Ron Abramovich, Water Supply Specialist
Philip Morrisey, Data Collection Officer
Jeff Anderson, Hydrologist
Julie Koeberle, Hydrologist
Adam Birken, Hydrologic Technician
Jeff Graham, Electronics Technician
Chad Gipson, Electronics Technician

Assistance provided by
Jolyne Lea, Forecast Hydrologist
Jim Marron, Forecast Hydrologist
NRCS, National Water and Climate Center, Portland, Oregon

Cooperative funding for printing provided by
Idaho Department of Water Resources

Numerous other agencies provide funding and/or
cooperative support for the collection, operation
and maintenance of the Snow Survey Program.
Their cooperation is greatly appreciated.